

PATENT SPECIFICATION

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(54) IMPROVEMENTS IN FIXED ELECTRICAL CONTACTS

(71) We, ATELIERS DE CONSTRUCTIONS ELECTRIQUES DE CHARLEROI (ACEC), of 54, Chaussee de Charleroi, Saint Gilles, Brussels, Belgium, a body corporate organized according to the laws of Belgium, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to fixed electrical contacts arranged in rows and intended to co-operate successively with movable contacts, more particularly to contacts which are used in transformer control tapping selectors. Selectors are known wherein the fixed contacts connected to the different tappings are arranged on insulating strips forming a cage within which rotates a shaft carrying movable contacts which are displaced in superimposed planes so as to engage successively with the corresponding fixed contacts. These fixed contacts are held on the strips by means of bolts passing through them. This construction requires very great precision in manufacture since the various fixed contacts are situated as precisely as possible at the places where the corresponding movable contacts pass and it does not lend itself to adjustment during the course of assembly except at the cost of great difficulty. Furthermore the drilling of holes for accommodating the fixing bolts in the strips, generally made of bakelite-coated paper, may cause splitting of the insulating material, causing empty spaces and consequently disruptions.

According to the present invention there is provided a fixed contact including a fixing part, a conductive contact part secured thereto for making contact with a movable contact said fixing part having the form of a hollow rectangular parallelepiped which surrounds and fits a pair of parallel insulating strips on which the contact is fixed, and having adjustable clamping means which clamps the contact to the insulating strips such that the contact may be slid along the strips and clamped thereto at any desired position lengthwise of the strips.

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The clamping means may include a wedge-shaped projection secured to one internal face of the parallelepipedic fixing part; slideable wedging means at the opposite internal face; and means for urging the slideable wedging means towards the wedge shaped projection so as to urge the pair of insulating strips to press against the two remaining opposite faces of the parallelepipedic fixing part.

The slideable wedging means may include a pair of cylindrical parts each having a conical end and each being arranged to slide in a hole in the wall of the parallelepipedic fixing part opposite to that to which the wedge-shaped projection is secured; each cylindrical part being provided with a clamping bolt extending through the centre of the parallelepipedic fixing part to enable said fixing part to be clamped and unclamped from the insulating strips.

The present invention will now be described in greater detail by way of example with reference to the accompanying drawing, wherein:—

Figure 1 is a partial perspective view of two insulating strips on which there is mounted a fixed contact; and

Figure 2 shows a cross-section through this assembly taken on a horizontal plane in the direction of the arrow X—X.

Referring to the drawing, the contact includes a conductive fixing part 1 in the form of a hollow rectangular parallelepiped, fitted over two supporting strips 3 and 4 made of insulating material whose largest faces bear on the two opposite internal walls of the fixing part 1 so that a given space is left between the two strips 3 and 4.

One of the two other internal faces of the part 1 is provided with a wedge-shaped projection 5 which engages between the two strips 3 and 4. In the wall arranged opposite the projection 5 there are formed two bores 6 in each of which there can slide a cylindrical part 7 having a conical end which may be wedged between the two strips 3 and 4 under the action of a clamping bolt 8 which engages in a threaded portion 9 formed in the wall provided with the wedge-

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shaped projection 5, on either side thereof. The clamping of the bolts 8 is used for locking, from the exterior, the part 1 on the strips 3 and 4 in the desired position 5 without any difficulty and ensuring very satisfactory fixing.

The part 1 is equipped with a conductive contact element 10 which is arranged to be brought into engagement with the corresponding movable contact (not shown) and with a connecting lug 11 for connection to the corresponding control tapping.

The advantage of the above described fixed contact is that its insulating supporting strips do not have to be perforated and its position can easily be adjusted by any amount during assembly.

WHAT WE CLAIM IS:—

20. 1. A fixed contact including a fixing part, a conductive contact part secured thereto for making contact with a movable contact, said fixing part having the form of a hollow rectangular parallelepiped which surrounds and fits a pair of parallel insulating strips on which the contact is fixed, and having adjustable clamping means which clamps the contact to the insulating strips such that the contact may be slid along the strips and clamped thereto at any desired position lengthwise of the strips.
25. 2. A fixed contact according to claim 1 wherein the clamping means includes a wedge-shaped projection secured to one internal face of the parallelepipedic fixing part;
30. 3. A fixed contact according to claim 1 wherein the clamping means includes a pair of cylindrical parts each having a conical end and each being arranged to slide in a hole in the wall of the parallelepipedic fixing part opposite to that to which the wedge-shaped projection is secured, each cylindrical part being provided with a clamping bolt extending through the centre of the parallelepipedic fixing part to enable said fixing part to be clamped and unclamped from the insulating strips.
35. 4. A fixed contact according to any one of the preceding claims, wherein a lug is provided on the fixing part for connection to the control tapping selector of a transformer.

slidable wedging means at the opposite internal face; and means for urging the slid-
able wedging means towards the wedge-
shaped projection so as to urge the pair of
insulating strips to press against the two 40
remaining opposite faces of the paralle-
lepipedic fixing part.

3. A fixed contact according to claim 2
wherein the slidable wedging means includes
a pair of cylindrical parts each having a
conical end and each being arranged to slide
in a hole in the wall of the parallelepipedic
fixing part opposite to that to which the
wedge-shaped projection is secured, each
cylindrical part being provided with a clamp-
ing bolt extending through the centre of the
parallelepipedic fixing part to enable said
fixing part to be clamped and unclamped
from the insulating strips.

4. A fixed contact according to any one
of the preceding claims, wherein a lug is
provided on the fixing part for connection
to the control tapping selector of a trans-
former.

5. A fixed contact for use with the con-
trol tapping selector of a transformer, con-
structed substantially as herein described
with reference to and as illustrated in the
accompanying drawing.

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1352386 COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of
the Original on a reduced scale*

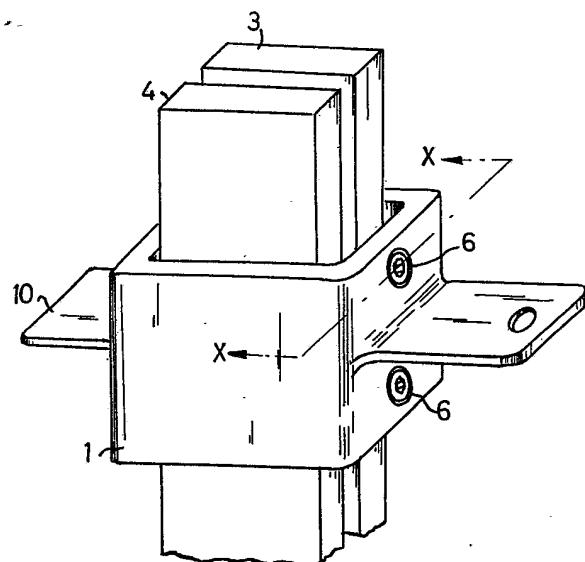


FIG. 1

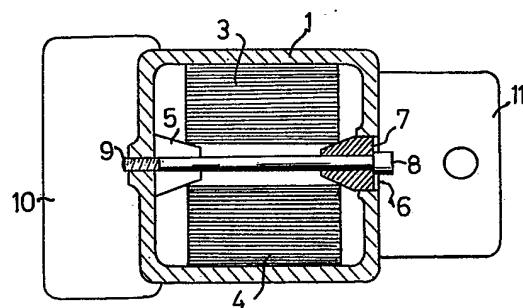


FIG. 2